

**DOCKET NO. D-2004-15 CP-1**

**DELAWARE RIVER BASIN COMMISSION**

**Buckingham Township  
Furlong Sewage Treatment Lagoon Expansion  
Buckingham Township, Bucks County, Pennsylvania**

**PROCEEDINGS**

This docket is issued in response to an application referred to the Commission pursuant to an Administrative Agreement under Sections 2.3.4A. and 2.3.7 of the *Administrative Manual - Part II, Rules of Practice and Procedure* by the Pennsylvania Department of Environmental Protection (PADEP) on February 23, 2004, for review of a proposed sewage treatment plant expansion project. The project was approved by the PADEP on August 13, 2004, but it is withholding its Sewerage Permit No. 0903418 until the project is approved by the Delaware River Basin Commission (DRBC).

The application was reviewed for inclusion of the project in the Comprehensive Plan and approval under Section 3.8 of the *Delaware River Basin Compact*. The Bucks County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on October 27, 2004.

**DESCRIPTION**

**Purpose.** The purpose of this project is to expand the applicant's Furlong sewage treatment lagoon to serve residential development in the applicant's existing service area.

**Location.** The project is located just east of State Route 263 in Buckingham Township, Bucks County, Pennsylvania.

Treated effluent will continue to be discharged to spray fields at the existing Furlong site as well as the Yerkes Tract. An alternate outfall to Mill Creek in the Neshaminy Creek Watershed is located on the USGS "Buckingham, PA" quad map, as follows:

<b>OUTFALL NO.</b>	<b>LATITUDE (N)</b>	<b>LONGITUDE (W)</b>
001	40° 19' 15"	75° 03' 24"

The outfall to Mill Creek is located at River Mile 115.63 – 23.65 – 6.4.

**Area served.** The project will continue to serve existing projected residential development in Buckingham Township, Bucks County, Pennsylvania.

**Physical features.**

a. **Design criteria.** The docket holder proposes to expand its existing Furlong sewage treatment aerated lagoon system from 116,825 gpd to 302,268 gpd, while continuing to provide secondary level of treatment. However, the plant will be limited to an average flow of up to 257,312 gpd, pending Act 537 Planning approval of the construction of another housing development and related discharge approvals by PADEP and written approvals by the Executive Director as required in Decision section II.h. Treated effluent from the proposed expanded Furlong sewage treatment lagoon system will be discharged to the existing Furlong spray field, plus at a new spray field and drip irrigation field at the Lindquist Tract. The spray field that was proposed for the Yerkes (Devonshire) Tract will be constructed when capacity is needed. The bentonite clay-lined lagoon treatment system will continue to provide partial mixed aeration to domestic sewage for an approximate treatment time of seven weeks. The exiting 20 million gallon capacity lagoons at the Furlong and Coles Tracts and the proposed 23.77 million gallon lagoon on the Lindquist Tract will provide a minimum of 107 days of storage capacity.

The effluent will be applied at an hourly rate of 0.25 to 0.1 inches depending upon the slope of the terrain, provided that less than 0.5 inches of rain had not fallen during the previous 24 hours and the mean daily temperature has not dropped below freezing. Ponding of effluent and run-off will also be controlled. Buffer zones of 100 feet from buildings and 50 feet from paved areas will be required. Following every seven-day application period there will be a six-day rest period. A Crop Management Plan will be implemented to control fertilizing, weed growth and the designed crop height of 12 inches. Reed Canary Grass has been selected to better remove nitrogen and thrive in high moisture conditions. Mixed hardwood areas will also serve as spray application zones.

b. **Facilities.** The docket holder's existing sewage treatment lagoon is a two-cell, aerated lagoon, separated by a floating baffle. The aeration system in the existing lagoons will be improved. Pump improvements and the addition of a new pump station are also proposed. A 32.8 million gallon storage lagoon will be constructed and an additional 38.3 acres of spray fields will be provided. Effluent disinfection will continue to be achieved via a hypochlorite solution chlorination system. A force main to Coles Lagoon will be constructed that will cross under Watson Creek, approved via PADEP General Permit No. 050902344.

c. **Other.** The potable water supply in the project service area will continue to be provided by the applicant's wells.

The project treatment facilities are above the 100-year flood zone.

Emergency power is provided by a diesel-powered generator.

Wasted sludge will continue to be hauled off-site by a licensed hauler for deposit at a State-approved facility.

The project facilities are above the 100-year flood zone.

The National Pollutant Discharge Elimination System (NPDES) Permit No. PA0052353 approved by PADEP on July 9, 1999, includes final effluent limitations for the project discharge of 0.236 mgd, seasonally from November through April, to surface waters classified by the PADEP as a Cold Water Fishery, suitable for migratory fish passage. The following average monthly effluent limits are among those listed in the NPDES permit and meet or are more stringent than the effluent requirements of the DRBC.

PARAMETER	LIMIT
pH (Standard Units)	6 to 9 at all times
Total Suspended Solids	30 mg/l (85% minimum removal)
Dissolved Oxygen	2 mg/l (minimum at all times)
CBOD (5-Day at 20° C) (11-1 to 4-30)	20 mg/l
Ammonia Nitrogen (11-1 to 4-30)	10 mg/l
Fecal Coliform	200 colonies per 100 ml as a geo. avg.
Total Residual Chlorine	0.5 mg/l

In addition, the PADEP Part II Water Quality Management permit requires the Furlong sewage treatment plant to meet the following effluent limits prior to discharge to the irrigation system:

PARAMETER	LIMIT
Flow	0.257 mgd
pH (Standard Units)	6 to 9 at all times
Total Suspended Solids	30 mg/l (85% minimum removal)
CBOD (5-Day at 20° C)	25 mg/l
Fecal Coliform	200 colonies per 100 ml as a geo. avg.

**Cost.** The overall cost of this project is estimated to be \$5,000,000.

**Relationship to the Comprehensive Plan.** The existing STP was included in the Comprehensive Plan via DRBC Docket No. D-86-65 CP on November 24, 1987 and expanded via Docket No. D-98-49 CP on August 18, 1999.

### **FINDINGS**

The nearest surface water intake of record for public water supply downstream of the project discharge is operated by the Philadelphia Suburban Water Company on the Neshaminy Creek at River Mile 115.63 – 9.23, approximately 20 river miles downstream.

PADEP approved the ACT 537 Plan sewage facilities expansion to 257,312 gpd on November 19, 2002. PADEP's approval noted that Furlong facilities, including portions of the collection, conveyance and spray irrigation facilities were being expanded beyond the total capacity of 257,312 gpd. It required the use of any facilities beyond the 257,312 gpd to be subject to further facilities planning an approval by PADEP.

The limits in the NPDES Permit are in compliance with Commission effluent quality requirements, where applicable.

Near the project site, Mill Creek has an estimated seven-day low flow with a recurrence interval of ten years (Q-7-10) of 1 mgd (1.55 cfs). The ratio of this low flow to the average design wastewater discharge from the expanded plant is 3.9 to 1. However, it is expected that the project STP will not be discharging to surface waters during Q-7-10 conditions, as the irrigation system will utilize the STP effluent.

The proposed project is designed to produce a discharge meeting the effluent requirements as set forth in the *Water Quality Regulations* of the DRBC.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

**DECISION**

I. Effective on the approval date for Docket No. D-2004-15 CP-1 below:

a. The projects described in Docket Nos. D-86-65 CP and D-98-49 CP are removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-2004-15 CP-1; and

b. Docket Nos. D-86-65 CP and D-98-49 CP are rescinded and replaced by Docket No. D-2004-15 CP-1.

c. The project and the appurtenant facilities described in the Section entitled, “Physical features” above shall be added to the Comprehensive Plan.

II. The project and appurtenant facilities as described in the Section entitled, “Physical features” above are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission’s.

b. The facility and operational records shall be available at all times for inspection by the DRBC.

c. The facility shall be operated at all times to comply with the requirements of the *Water Quality Regulations* of the DRBC.

d. If the docket holder seeks relief from any limitation based upon a DRBC water quality standard or minimum treatment requirement, the docket holder must apply to the Commission for a docket revision in accordance with Section 3.8 of the *Compact*.

e. If at any time the receiving treatment plant proves unable to produce an effluent that is consistent with the requirements of this docket approval, no further connections shall be permitted until the deficiency is remedied.

f. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

g. Sound practices of excavation, backfill and reseedling shall be followed to minimize erosion and deposition of sediment in streams.

h. The average daily discharge to the Mill Creek and the spray and drip irrigation facilities from the Furlong Sewage Treatment Plant shall not exceed 0.236 mgd average and 0.257 mgd, respectively, on a monthly average. Upon the receipt of a request of Buckingham Township and of written approval from PADEP, the Executive Director may approve an increase to these discharges up to 302,268 gpd.

i. Within 10 days of the date that construction of the project has started, the docket holder shall notify the DRBC of the starting date and scheduled completion date.

j. Upon completion of construction of the approved project, the docket holder shall submit a statement to the DRBC, signed by the docket holder's engineer or other responsible agent, advising the Commission that the construction has been completed in compliance with the approved plans, giving the final construction cost of the approved project and the date the project is placed into operation.

k. This docket approval shall expire three years from date below unless prior thereto the docket holder has commenced operation of the subject project or has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval.

l. The area served by this project is limited to the service area as described above. Any expansion beyond this area is subject to review in accordance with Section 3.8 of the *Compact*.

m. Any requirements imposed by the National Pollutant Discharge Elimination System permitting agency shall supersede the requirements of this approval insofar as they impose more stringent treatment criteria.

n. The docket holder shall make wastewater discharge in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property. The docket holder shall assume all responsibility for any claims arising from the proposed discharges and shall indemnify and hold harmless the Commission against and from any and all claims made by or on behalf of any person arising from any discharges made by the docket holder.

o. No sewer service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

p. Nothing in this docket approval shall be construed as limiting the authority of DRBC to adopt and apply charges or other fees to this discharge or project.

q. The issuance of this docket approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the right to amend, alter or rescind any actions taken hereunder in order to insure proper control, use and management of the water resources of the Basin.

r. This docket approval shall expire on the expiration date indicated below unless the docket holder has submitted a complete application for renewal of this docket 12 months prior to the expiration date below, or permission has been granted by the DRBC for submission at a later date. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date, the terms and conditions of this docket will automatically continue and remain fully effective and enforceable pending the grant or denial of the application for docket approval.

s. The Executive Director may modify or suspend this approval, or require mitigating measures, pending additional review.

**BY THE COMMISSION**

**DATE APPROVED:**

**EXPIRATION DATE: October 27, 2009**